CUMULATIVE AUTHOR INDEX
Annals of the Entomological Society of America
Volume 104, 2011

A

Abdalla, F. C., 761
Abe, Y., 115, 369, 620
Adachi-Hagimori, T., 348
Adamczyk, J. J., 816
Adams, T., 498
Ahmad, I., 149, 1149, 1285
Akbar, W., 699
Akosten-Mensah, C., 192
Alarie, Y., 25
Albuquerque, G. S., 1233
Alhaddad, H., 543
Alouw, J. C., 121
Alston, D. G., 588
Aluja, M., 202
Al-Wathiqui, N., 562
Amalin, D., 451
Ammar, E.-D., 526
Andersson, P., 221
Ando, Y., 348
Appel, A. G., 192
Arias, R. S., 577
Arias-Penna, D. C., 1119
Arthur, A. L., 402
Arzuffi, R., 960
Asplen, M. K., 935
Augustinos, A. A., 306
Azeredo, T. L., 613

B

Backus, E. A, 515, 543
Balakrishnan, S., 594
Bamba, J. P., 594
Barbour, J. D., 588
Beuzelin, J. M., 699
Blackwood, J. S., 488
Blanco, C. A., 577
Blomquist, S. R., 886
Boaria, A., 180
Bodner, F., 1091
Boozer, R. T., 192
Borkent, A., 1026
Bourchier, R., 966
Bouvet, J. P., 1392
Bradshaw, J. D., 507
Braman, S. K., 1327
Brehm, G., 1091
Brooks, S. J., 649
Broufas, G. D., 726
Brown, B. V., 37, 1026
Brown, J. K., 261, 280
Buenahora, J., 1392
Buhay, J. E., 507
Buhl, P. N., 180
Bundy, C. S., 605

C

Cáceres, S., 1392
Caillaud, M., 319
Campbell, L. A., 1380
Campo, M.L.D., 319
Cano-Ramírez, C., 553
Capinera, J. L., 416
Carlton, C. E., 1170
Carpane, P., 515
Casenave, J.L.D., 212
Centeno, P., 68
Center, T. D., 488
Chai, H.-N., 998
Chapman, P. S., 105
Chen, X.-S., 95
Chiarelli, R. N., 488
Chiu, Y.-K., 1012
Choi, S. K., 816
Choi, S.-W., 952
Cicero, J. M., 261, 280
Ciegler, J. C., 1027
Clark, P. L., 1380
Clark, T. L., 1380
Colvin, A. M., 465
Conn, J. S., 1303
Cooley, J. R., 443
Cortilet, A., 966
Coudron, T. A., 543
Coyle, D. R., 59
Crabo, L., 498
Cumming, J. M., 1026
Cummins, H. M., 465

D

Damal, K., 688
Das, P., 429
Davidson, L. N., 675
de León, J. H., 1392
Diaz, R., 1319
Dietrich, C. H., 636
Dikow, T., 1026
Dolezal, W., 515
Dou, W., 800
Du, Y.-Z., 998
Duelli, P., 649
Duman, J. G., 59
Duso, C., 180
Dutcher, J. D., 588
Dutra, V. S., 16, 857
Dyer, L. A., 1078, 1135

E

Edde, P. A., 1297
Elias, M., 1108
Eikinton, J. S., 534
Ergin, E., 77
Evans, E. W., 675

F

Fadamiro, H. Y., 192
Fathipour, Y., 627
Feder, J. L., 202
Feng, H., 1334
Fernandes, F. S., 613
Fiedler, K., 1091
Fielding, D. J., 1303
Fletcher, J., 515
Foo, F.-K., 233
Foster, J. E., 567, 1380
Fox, C. W., 850
Franz, G., 306
French, B. W., 834
Fuhrmann, J., 919
Fujisaki, K., 353
Funderburk, J., 733
Furniss, M. M., 895

G

Garcia, M., 25
Gastaminza, G. A., 1392
Gautam, B. K., 459
Geluso, K., 1021
Gentry, G. L., 1135
Giangarelli, D. C., 229
Gibson, J. F., 976
Gilbert, C., 945
Gilbert, F., 1149
Gillespie, S., 534
Gols, R., 1005
Górzyńska, K., 841
Goyal, G., 416
Grados, J., 68
Gravois, K. A., 699
Gray, M. E., 507
Grayson, K. L., 364
Green, S.B.R., 1135
Greenberg, S. M., 816

Greeney, H. F., 1078, 1128, 1135
Guan, L., 778
Gwiazdowski, R. A., 534

H
Haftaci, İ., 77
Hahn, D., 1319
Hajiqanbar, H., 627
Hall, D. G., 50, 526
Hall, H. G., 1349
Hallman, G. J., 1367
Halpern, R., 749
Hammack, L., 834
Hanks, L. M., 588
Hanula, J. L., 1327
Harner, M. J., 1021
Harvey, J. A., 1005
Haselton, A. T., 749
Havill, N. P., 389
Heaton, E. A., 507
Hegazi, E. M., 221
Heimpel, G. E., 935
Henderson, G., 459
Henderson, R. E., 1355
Henry, C. S., 649
Herbert, J. J., 909
Herrick, N. J., 718
Hespenheide, H. A., 1029
Hill, K.B.R., 443
Hirai, N., 483
Hironaga, T., 739
Horn, S., 1327
Horton, D. R., 1260
Hu, C.-X., 800
Hünefeld, F., 1091
Hunt, T. E., 567

I
Ide, S., 919
Ide, T., 115, 369, 620
Ignatov, I. I., 68
Ikten, C., 567
Inclan, D. J., 287
Ishii, M., 483
Ishikawa, Y., 326
Ito, M., 739
Ivanović, A., 1221

J
Jackson, M. D., 976
Jakše, J., 1221
Janovec, J. P., 68
Jarial, M. S., 768
Jin, X.-D., 1373
Johnson, A. J., 666
Johnson, J. B., 649
Joly, L., 25
Jones, J. C., 808
Juliano, S. A., 688, 1309

K
Kavallieratos, N. G., 1221
Kawazu, K., 682
Kegley, S., 895
Kelly-Worden, M., 768
Kelso, S., 976
Kesari, S., 429
Khafagi, W. E., 221
Kikuchi, R., 594
Kim, B.-W., 337
Kim, K. S., 816
Kim, Y., 788
Kitching, I. J., 68
Kits, J. H., 976
Klein, R., 749
Kok, L. T., 718
Kokudai, C.B.S., 434
Konishi, K., 121
Kos, K., 1221
Koveos, D. S., 43, 726
Krishnakumari, B., 429
Krishnankutty, S. M., 636
Kumar, V., 429
Kumari, K., 429
Kuriachan, I., 1355

L
Lamas, G., 68
Lan, Y.-C., 878
Landolt, P. J., 498
Lapolla, J. S., 37
Larson, K., 1399
Leal, I. R., 901
Lee, C.-F., 658
Lee, C.-Y., 233
Lee, H., 816
Lee, J. C., 705
Legaspi, B. C., 451
Legaspi, J. C., 451
Leisnham, P. T., 1309
Lembicz, M., 841
Leschen, R.A.B., 389
Leuchtmann, A., 841
Lewis, T. M., 1260
Li, H.-F., 878
Li, W.-L., 1373
Li, Y.-P., 1373
Liang, A.-P., 154
Lin, C.-C., 1012
Liu, Y.-Q., 1373
Loaiza-Phillips, E. M., 1360
Logarzo, G. A., 1392
Lonsdale, O., 1183
López, M. F., 553
Lounibos, L. P., 688
Lu, F., 800
Lynch, C., 526

M
Mahroof, R. M., 928
Malaquias, J. B., 613
Manfrin, M. H., 434
Mankin, R. W., 1012
Mann, R. S., 297
Mannion, C., 451
Mantoanelli, E., 1233
Marshall, D. C., 443
Maxwell, M. R., 348
McAvoy, T. J., 718
McElwey, S. J., 705
McPherson, J. E., 149, 605, 1285
Meinke, L. J., 1380
Mejdalani, G., 141
Memon, N., 1149
Messina, F. J., 808, 850
Michat, M. C., 863
Millar, J. G., 249, 588
Miller, A. D., 402
Miller, D. R., 1207
Miller, J. S., 1033
Miranda, G.F.G., 976
Miura, K., 348
Mochizuki, A., 121, 682
Molina-Ochoa, J., 567
Montgomery, M. E., 389
Moore, M. K., 241
Morón, M. A., 960
Morton, P. K., 666
Moser, J. C., 886
Mound, L., 733
Murrell, E. G., 688

N
Nagaki, S. S., 374
Nagoshi, R. N., 88
Nakamura, S., 121, 682
Nalepa, C. A., 364
Nascimento, A.R.B., 613
Nascimento Júnior, J. L., 613
Negrón, J. F., 705
Neumann, P., 476
Novoa, F., 132
Nuessly, G. S., 416

O
Okawachi, F. M., 761
Oliveira, P. S., 901
Olson, D., 966
Olszanowski, Z., 841
Ortuño, V. M., 132

Othman, A. S., 233
Overholt, W. A., 1319
Owen, R. E., 83
Ozaki, K., 739

P
Paini, D., 733
Palmer, S., 319
Pandin, D. S., 121
Pappas, M. L., 43, 726
Park, J.-S., 1170
Pelz-Stelinski, K., 297
Penz, C. M., 1078
Petrović, A., 1221
Pettis, J. S., 476
Phillips, T. W., 1297
Pirk, G. I., 212
Pitts, J. P., 1279
Pogue, M. G., 1292
Popp, J. B., 705
Portilla, M., 577
Prasifka, J. R., 507
Pratt, P. D., 488
Proud, D. N., 241, 1360
Puker, A., 919
Puterka, G. J., 39

R
Raffa, K. F., 59
Rahiminejad, V., 627
Ramalho, F. S., 613
Rasmussen, C., 1119
Ray, A. M., 588
Reagan, T. E., 699
Reddy, G.V.P., 594
Rejzek, M., 588
Remolona, J. E., 594
Ren, B., 778
Ren, D., 1334
Ríos-Diez, J. D., 826
Ritter, W., 476
Robinson, A. S., 306
Rodrigues, S. R., 919
Rodríguez, R. L., 562
Rodstein, J., 588
Roe, A. D., 1207
Roehrdanz, R., 966
Rohrig, E., 50
Ronchi-Teles, B., 16, 857
Rotherham, I. D., 847
Rozen, J. G., 1349
Rozen, J. R., 1349
Ruberson, J., 171
Rubinoff, D., 1
Rull, J., 202

S
Sakamoto, Y., 483
Saldamando-Benjumea, C. I., 826
Sallum, M.A.M., 374
Salom, S. M., 718
Samayoa, A. C., 1319
Sánchez-Espíndola, E., 960
Sappington, T. W., 507, 816
Sayama, K., 739
Sayed, W.A.A., 306
Schäfer, M. O., 476
Scheffer, S. J., 1183
Scheffler, B. E., 577
Schemerhorn, B. J., 666
Schlyter, F., 221
Schmitz, P., 1
Schneider, S. A., 37
Schoville, S. D., 337
Schreiber, F., 543
Seal, D. R., 416
Sears, S., 966
Sene, F. M., 434
Sesterhenn, T. M., 358
Sétamou, M., 1392
Seybold, S. J., 705
Sharma, J., 733
Shatters, Jr., R. G., 526
Sheets, H. D., 105
Shibayama, M., 553
Shih, C., 1334
Shirk, P. D., 50
Shiyake, S., 389
Short, A.E.Z., 25
Showler, A. T., 699
Shufran, K. A., 39
Shukle, R. H., 666
Silva, A.M.D., 374
Silva, C.A.D., 613
Silva, J. G., 16, 857
Silva, P.S.D., 901
Silvers, C. S., 488
Simmons, A. M., 928
Skevington, J. H., 976
Skoda, S. R., 567
Snodgrass, G. L., 577
Sofia, S. H., 229
Son, Y., 788
Song, Z.-S., 154
Sourakov, A., 1108
Stansly, P. A., 50
Starý, P., 1221
Steck, G. J., 16, 416, 857
Stelinski, L. L., 297
Stireman, J. O., 1078
Stoffolano, J. G., 1399
Stireman J. O., 287
Strutzenberger, P., 1091
Su, N.-Y., 878
Sugeno, W., 682
Sun, J., 1327
Sun, S.-H., 1373
Surian, L., 180

T
Tabata, J., 326
Tabuchi, K., 739
Takano, S., 682
Takano, S.-I., 121, 682
Takematsu, Y., 348
Takiya, D. M., 141
Tanaka, T., 1005
Tanikawa, T., 483
Tauber, C. A., 1233
Tauber, M. J., 1233
Thiaucourt, P., 1033
Thomas, D. B., 1367
Tiago, E. F., 919
Tibbetts, J. A., 241
Tiwari, S., 297
Tobler, M. W., 68
Toews, M. D., 909, 1297
Tomanović, Ž., 1221
Tonolli, P. N., 761
Torres, P.L.M., 863
Toševski, I., 1221
Towler, L., 1309
Townsend, V. R., 241, 1360
Trdan, S., 1221
Tsarsitalidou, O. K., 726

U
Uçkan, F., 77
Ueda, A., 739

V
Valdez, J., 960
Velásquez-Vélez, M. I., 826
Venugopalan, R., 429
Villarreal, S. M., 945
Vinson, R., 749
Vinson, S. B., 1355
Vivian, L. A., 1021
Viviani, V. R., 761
Votruba, P., 658

W
Wachi, N., 115, 369, 620
Wade, R. R., 1360
Waichert, C., 1279
Walker, M. D., 847
Wang, B.-J., 800
Wang, J.-J., 800
Warren, A. D., 1128

Watanabe, E., 348
Waterworth, R. A., 249
Wayadande, A., 515
Weddle, R., 534
Weeks, A. R., 402
Wei, D.-D., 800
Weller, S. J., 1207
Wells, M. M., 649
Westbrook, J. K., 816
Wharton, R. A., 465
Whidden, T. L., 83
Whitfield, J. B., 1078, 1119
Wickings, K. G., 171
Williams, L., 705
Willmott, K. R., 1108
Witcosky, J. J., 705
Wood, D. M., 1026
Woodley, N. E., 1026
Wright, I. M., 249
Wu, S., 1373
Wyckhuys, K.A.G., 935

X

Xu, X.-R., 1373

Y

Yago, M., 483
Yamamoto, P. T., 1392
Yee, W. L., 105
Yesmin, F., 306
Yokoi, T., 353
Yuan, M.-L., 800

Z

Zacharopoulou, A., 306
Zack, R. S., 498
Zhang, J., 778
Zhang, Y., 1327
Zhang, Z.-G., 95
Zheng, Y.-N., 1373
Zúñiga, G., 553

CUMULATIVE KEY WORD INDEX
Annals of the Entomological Society of America
Volume 104, 2011

A

Abernessia,
  Ctenocerinae, 1279
  Hypoferreola, 1279
  Lepidocnemis, 1279
  spider wasp, 1279
accessory salivary gland,
  circulative transmission, 280
  cyclical salivation, 280
  virus vector, 280
  whitefly, 280
acorn,
  atavism, 115
  Cyclobalanopsis, 115
  gall wasp, 115
  phenology, 115
acoustic communication,
  call analysis, 945
  intermale variation, 945
  Orthoptera song, 945
activity,
  damselflies, 358
  fish, 358
  foraging, 358
  injury, 358
adaptation,
  additive inheritance, 808
  experimental evolution, 808
  host shift, 808
  lentil, 808
additive inheritance,
  adaptation, 808
  experimental evolution, 808
  host shift, 808
  lentil, 808
adelgid predators,
  Derodontidae, 389
  Laricobius, 389
  molecular diagnostics, 389
  new species, 389
Adephaga,
  chaetotaxy, 25
  comb-clawed cascade beetles, 25
  Meru phyllisae, 25
  phylogeny, 25
adult longevity,
  chemotype, 488
  degree-days, 488
  developmental rate, 488
  paperbark tree, 488
Aedes,
  Culicidae, 688
  detritus, 688
  ecological stoichiometry, 688
  interspecific competition, 688
aeropyle,
  chorion ornamentation, 16
  fruit flies, 16
  micropyle, 16
Aethina tumida,
  Apis mellifera, 476
  thermoregulation, 476
  Varroa destructor, 476
  winter cluster, 476
aging,
  circadian activity, 749
  dietary restriction, 749
agroecosystem,
  biodiversity, 171
  cotton, 171
  soil ecology, 171
  Solenopsis invicta, 171
Agromyzidae,
  holly leafminers, 1183
  Phytomyza, 1183
  revision, 1183
  Nearctic, 1183
Ailanthus altissima,
  classical biological control, 718
  Eucryptorrhynchus brandti, 718
  insect development, 718
  insect rearing, 718
AK,
  grasshopper, 1303
  invasive plant, 1303
alate,
  mites, 886
  phoresy, 886
  red imported fire ant, 886
  Solenopsis invicta, 886
alfalfa,
  cannibalism, 675
  Coccinella septempunctata, 675
  frass analysis, 675
  predation, 675
alimentary canal,
  Bemisia anatomy, 261
  salivary glands, 261
  Squash leaf curl virus, 261
  whitefly-mediated transmission, 261
allochronic isolation,
  Magicicada, 443
  phenotypic plasticity, 443
  predator-satiation, 443
  speciation, 443
allometry,
  Brazil, 919
  Oryctini, 919
  Pleurosticti, 919
  sexual selection, 919
alternative diet,
  Brontispa longissima, 682
  host selection, 682
  invasive alien species, 682
  mass rearing, 682
Altiplano,
  Bolivia, 1292
  invasive species, 1292
  pest, 1292
  quinoa, 1292
Amazon,
  Andes Mountains, 68
  Peru, 68
  Sphingidae, 68
amplified fragment length polymorphism,
  hybridization, 1380
  northern corn rootworm, 1380
anal secretions,
  Asian citrus psyllid, 50
  citrus greening disease, 50
  Huanglongbing, 50
Anastrepha ludens,
  apoptosis, 1367
  irradiation, 1367
  phytosanitation, 1367
Andean region,
  biology, 1119
  host records, 1119
  South America, 1119
  taxonomy, 1119
Andes,
  diversity, 1091
  Larentiinae, 1091
  species richness estimate, 1091
Andes mountain range,
  Auchenorrhyncha, 141
  leafhopper, 141
  submacroptery, 141
  taxonomy, 141
Andes Mountains,
  Amazon, 68
  Peru, 68
  Sphingidae, 68
antennal sensilla,
  Leptura aethiops, 778
  Leptura arcuata, 778
  scanning electron microscopy, 778
Antheraea pernyi,
  expression pattern, 1373
  homologous alignment, 1373
  phylogenetic inference, 1373

selenophosphate synthetase, 1373
Anthomyiidae,
Botanophila sp., 841
Epichloë sp., 841
fly–fungus interaction, 841
Puccinellia distans, 841
Anthonomus grandis grandis,
microsatellites, 816
population assignment, 816
population genetics, 816
population structure, 816
ant–seed interaction,
choice experiments, 212
desert communities, 212
diet, 212
granivory, 212
Apanteles galleriae,
indole-3-acetic acid, 77
parasitoid, 77
sublethal effects, 77
toxicity, 77
aphid,
Diuraphis, 39
DNA barcoding, 39
holocyclic reproduction, 39
Schizaphis, 39
aphidiine wasps,
barcoding, 1221
genetic diversity, 1221
morphological, 1221
Apis mellifera,
Aethina tumida, 476
thermoregulation, 476
Varroa destructor, 476
winter cluster, 476
Apocynaceae,
immature stages, 1108
larval mimicry, 1108
life history, 1108
Solanaceae, 1108
Apoidea,
euglossine bees, 229
gynander, 229
gynandromorph, 229
Neotropical fauna, 229
apoptosis,
Anastrepha ludens, 1367
irradiation, 1367
phytosanitation, 1367
apple maggot,
canonical variates analysis, 105
genitalic morphology, 105
snowberry, 105
Arctiinae,
Ecuador, 1135
larval morphology, 1135
parasitoid, 1135
trophic interactions, 1135
Asian citrus psyllid, 50, 297
anal secretions, 50
Candidatus Liberibacter asiaticus, 297
citrus greening, 297
citrus greening disease, 50
cytochrome P_{450}, 297
glutathione transferase, 297
Huanglongbing, 50
Aspisoma lineatum,
bioluminescence, 761
fat body, 761
luciferase, 761
trophocyte, 761
atavism,
acorn, 115
Cyclobalanopsis, 115
gall wasp, 115
phenology, 115
attine ants,
colony size, 901
demographic attributes, 901
nest architecture, 901
worker morphometry, 901
attractant,
biodiversity, 498
moth, 498
survey, 498
trapping, 498
Auchenorrhyncha, 141, 543, 636
Andes mountain range, 141
glassy-winged sharpshooter, 543
Homalodisca liturata, 543
Homalodisca vitripennis, 543
leafhopper, 141
Mileewini, 636
Old World, 636
sodium dodecyl sulfate-polyacrylamide gel electrophoresis, 543
submacroptery, 141
taxonomy, 141, 636
Ujna, 636
Avephora,
Dictyopharidae, 154
Oriental region, 154
Putala, 154
revision, 154

B

Bactrocera cucurbitae,
chromosome inversions, 306
melon fly, 306
polytene chromosomes, 306
Tephritidae, 306
Balaustium medicagoense,
Bryobia, 402
mite, 402
pest, 402
species status, 402
bamboo,
Chusquea, 1128
cloud forest, 1128
Poaceae, 1128
skipper, 1128
bamboo pests,
Bambusicaliscelis, 95
Caliscelidae, 95
new genus, 95
new species, 95
Bambusicaliscelis,
bamboo pests, 95
Caliscelidae, 95
new genus, 95
new species, 95
barcoding,
aphidiine wasps, 1221
genetic diversity, 1221
morphological, 1221
Barypeithes pellucidus,
lower lethal temperature, 59
Phyllobius oblongus, 59
Polydrusus sericeus, 59
supercooling point, 59
basal membrane infoldings,
coated pits, 768
mitochondria, 768
vacuoles, 768
vesicles, 768
bee cocoon,
gas diffusion, 1349
Osmia chalybea, 1349
silk, 1349
Stelis ater, 1349
behavior,
communication, 1012
evolution, 1012
Ponerinae, 1012
Bemisia tabaci,
survival, 928
sweetpotato whitefly, 928
vapor pressure deficit, 928
Bemisia anatomy,
alimentary canal, 261
salivary glands, 261
Squash leaf curl virus, 261
whitefly-mediated transmission, 261
bimodal hybrid zone,
Drosophila buzzatii cluster, 434
reproductive isolation, 434
secondary contact zone, 434
biocontrol,
invasive plant, 1327
lace bug, 1327
Ligustrum sinense, 1327
tingid, 1327
biodiversity, 171, 498, 739, 952, 1033
agroecosystem, 171
attractant, 498

cotton, 171
cryptic species, 1033
ecoregion, 952
forest, 952
indicator species, 952
Lepidoptera, 739
morphology, 1033
moth, 498
moths, 952
neotropics, 1033
seasonality, 739
soil ecology, 171
Solenopsis invicta, 171
species richness estimator, 739
species turnover, 739
survey, 498
taxonomy, 1033
trapping, 498
bioenergy,
biomass, 507
Chaetopsis sp., 507
herbivores, 507
nocturnal activity, 507
biofix,
degree-day models, 192
plum curculio, 192
polynomial function, 192
Weibull function, 192
biogeography, 337, 649, 1170
dispersal, 649
diversification, 337
Faronini, 1170
mating signal, 649
rock-crawlers, 337
species tree, 337
systematics, 649
taxonomy, 1170
vicariance, 337
biological control, 180, 1392
Cecidomyiidae, 180
geographic structure, 1392
haplotypes, 1392
mitochondrial cytochrome oxidase subunit I gene, 1392
phylogeography, 1392
Platygastridae, 180
Robinia pseudoacacia, 180
seasonal abundance, 180
biology, 613, 1119
Andean region, 1119
consumption rates, 613
feeding, 613
Gossypium hirsutum, 613
growth index, 613
host records, 1119
South America, 1119
taxonomy, 1119
bioluminescence,
Aspisoma lineatum, 761
fat body, 761
luciferase, 761
trophocyte, 761
biomass,
bioenergy, 507
Chaetopsis sp., 507
herbivores, 507
nocturnal activity, 507
biosynthesis,
genetics, 326
genus *Ostrinia*, 326
hybrid, 326
moth pheromone, 326
black cherry,
Diptera, 202
distribution, 202
Rhagoletis cingulate, 202
Tephritidae, 202
blood feeding,
kala-azar (visceral leishmaniasis), 429
laboratory colonization, 429
nonhuman host, 429
Phlebotomus argentipes, 429
blowfly,
concentration ingested, 1399
dipteran crop, 1399
droplet production, 1399
regurgitation, 1399
Bolivia,
Altiplano, 1292
invasive species, 1292
pest, 1292
quinoa, 1292
Bombus,
diploid males, 83
microsatellites, 83
Botanophila sp.,
Anthomyiidae, 841
Epichloë sp., 841
fly–fungus interaction, 841
Puccinellia distans, 841
Braconidae,
Chusquea, 1078
cloud forest, 1078
Poaceae, 1078
Winthemia, 1078
Brazil, 374, 919
allometry, 919
distribution, 374
identification, 374
morphology, 374
Myzorhynchella, 374
Oryctini, 919
Pleurosticti, 919
sexual selection, 919
Brontispa longissima,
alternative diet, 682
host selection, 682
invasive alien species, 682
mass rearing, 682
brood guarding,
Gelis agilis, 1005
host manipulation, 1005
Meteorus pulchricornis, 1005
Microplitis sp., 1005
Bryobia,
Balaustium medicagoense, 402
mite, 402
pest, 402
species status, 402
butterfly,
male killing, 483
sex-ratio distortion, 483
Wolbachia, 483
Zizina emelina, 483

C

caddisfly,
larval movement, 1021
life-history strategy, 1021
Platte River, 1021
subterranean behavior, 1021
Caliscelidae,
bamboo pests, 95
Bambusicaliscelis, 95
new genus, 95
new species, 95
call analysis,
acoustic communication, 945
intermale variation, 945
Orthoptera song, 945
Callosobruchus,
egg dispersion, 850
genetic correlation, 850
host deprivation, 850
oviposition behavior, 850
candezei species group,
Helotidae, 658
Neohelota, 658
taxonomic revision, 658
Candidatus Liberibacter asiaticus,
Asian citrus psyllid, 297
citrus greening, 297
cytochrome P_{450}, 297
glutathione transferase, 297
cannibalism,
alfalfa, 675
Coccinella septempunctata, 675
frass analysis, 675
predation, 675
canonical variates analysis,
apple maggot, 105
genitalic morphology, 105
snowberry, 105
captive breeding,
Cicindela dorsalis dorsalis, 534
Cicindela puritana, 534
laboratory rearing, 534
tiger beetle, 534
Carabidae,
Ethiopia, 132
taxonomy, 132
Trechus, 132

Cecidomyiidae, 180, 369
biological control, 180
inquiline oak gall wasp, 369
new species, 369
Platygastridae, 180
Quercus, 369
Robinia pseudoacacia, 180
seasonal abundance, 180
Central America,
Cosmetidae, 1360
ecology, 1360
natural history, 1360
Sclerosomatidae, 1360
Chaetopsis massyla,
developmental stages, 416
Euxesta eluta, 416
Euxesta stigmatias, 416
sweet corn, 416
Chaetopsis sp.,
bioenergy, 507
biomass, 507
herbivores, 507
nocturnal activity, 507
chaetotaxy, 25, 863
Adephaga, 25
comb-clawed cascade beetles, 25
diving beetles, 863
larvae, 863
Meru phyllisae, 25
phylogenetic relationships, 863
phylogeny, 25
chemical ecology,
electroantennography, 705
flight behavior, 705
host colonization, 705
Scolytus schevyrewi, 705
chemoreception,
host preference, 319
sensilla styloconica, 319
taste, 319
tobacco hornworm, 319
chemotype,
adult longevity, 488
degree-days, 488
developmental rate, 488
paperbark tree, 488
Chilo suppressalis,
infection rate, 998
phylogenetic analysis, 998
Wolbachia, 998
China,
morphology, 878
Taiwan, 878
taxonomy, 878
termite, 878
choice experiments,
ant–seed interaction, 212
desert communities, 212
diet, 212
granivory, 212
chorion ornamentation,
aeropyle, 16
fruit flies, 16
micropyle, 16
chromosome inversions,
Bactrocera cucurbitae, 306
melon fly, 306
polytene chromosomes, 306
Tephritidae, 306
chrysopids,
development, 726
Dichochrysa sp., 726
mass rearing, 726
reproduction, 726
Chusquea, 1078, 1128
bamboo, 1128
Braconidae, 1078
cloud forest, 1078, 1128
Poaceae, 1078, 1128
skipper, 1128
Winthemia, 1078
Cicindela dorsalis dorsalis,
captive breeding, 534
Cicindela puritana, 534
laboratory rearing, 534
tiger beetle, 534
Cicindela puritana,
captive breeding, 534
Cicindela dorsalis dorsalis, 534
laboratory rearing, 534
tiger beetle, 534
circadian activity,
aging, 749
dietary restriction, 749
circulative transmission,
accessory salivary gland, 280
cyclical salivation, 280
virus vector, 280
whitefly, 280
citrus greening, 297, 526
Asian citrus psyllid, 297
Candidatus Liberibacter asiaticus, 297
cytochrome P_{450}, 297
glutathione transferase, 297
huanglongbing, 526
salivary gland, 526
transmission barrier, 526
vector relations, 526
citrus greening disease,
anal secretions, 50
Asian citrus psyllid, 50
Huanglongbing, 50
citrus red mite,
gene flow, 800
genetic variation, 800
nuclear rDNA internal transcribed spacer 1, 800
population demography, 800
classical biological control, 718, 935
Ailanthus altissima, 718
dispersal, 935
Eucryptorrhynchus brandti, 718
host alternation, 935
insect development, 718
insect rearing, 718
overwintering, 935
soybean aphid, 935
cloud forest, 1078, 1128
bamboo, 1128
Braconidae, 1078
Chusquea, 1078, 1128
Poaceae, 1078, 1128
skipper, 1128
Winthemia, 1078
coated pits,
basal membrane infoldings, 768
mitochondria, 768
vacuoles, 768
vesicles, 768
Coccinella septempunctata,
alfalfa, 675
cannibalism, 675
frass analysis, 675
predation, 675
Cocos nucifera,
cryptic species, 121
invasive species, 121
mitochondrial DNA, 121
Coleoptera,
Curculionidae, 594
Rhabdoscelus obscurus, 594
trap characteristics, 594
trapping location, 594
colony size,
attine ants, 901
demographic attributes, 901
nest architecture, 901
worker morphometry, 901
comb-clawed cascade beetles,
Adephaga, 25
chaetotaxy, 25
Meru phyllisae, 25
phylogeny, 25
common swift,
Crataerina pallida, 847
parasite transmission, 847
communication,
behavior, 1012
evolution, 1012
Ponerinae, 1012
comparative morphology,
larvae, 1233
Leucochrysini, 1233
South America, 1233
concentration ingested,
blowfly, 1399
dipteran crop, 1399

droplet production, 1399
regurgitation, 1399
coneworm,
Dioryctria, 1207
integrated taxonomy, 1207
mitochondrial DNA, 1207
species delimitation, 1207
consumption rates,
biology, 613
feeding, 613
Gossypium hirsutum, 613
growth index, 613
Coptotermes formosanus,
temperature, 459
wood moisture, 459
wood preference, 459
copulatory behavior,
mating disruption, 249
mealybugs, 249
reproductive biology, 249
Cosmetidae,
Central America, 1360
ecology, 1360
natural history, 1360
Sclerosomatidae, 1360
Cosmopterigidae,
endemic radiation, 1
Microlepidoptera, 1
portable cases, 1
cotton,
agroecosystem, 171
biodiversity, 171
soil ecology, 171
Solenopsis invicta, 171
Crataerina pallida,
common swift, 847
parasite transmission, 847
critical photoperiod,
diapause induction, 567
genetics, 567
sex-linked, 567
voltinism, 567
cross attraction,
pheromone-based pest management, 588
Prioninae, 588
semiochemical, 588
cryptic species, 121, 966, 1033
biodiversity, 1033
Cocos nucifera, 121
Euphorbia, 966
invasion genetics, 966
invasive species, 121
mitochondrial DNA, 121, 966
morphology, 1033
neotropics, 1033
rangeland weeds, 966
taxonomy, 1033
Ctenocerinae,
Abernessia, 1279
Hypoferreola, 1279
Lepidocnemis, 1279
spider wasp, 1279
Culicidae,
Aedes, 688
detritus, 688
ecological stoichiometry, 688
interspecific competition, 688
Curculionidae,
Coleoptera, 594
Rhabdoscelus obscurus, 594
trap characteristics, 594
trapping location, 594
cyclical salivation,
accessory salivary gland, 280
circulative transmission, 280
virus vector, 280
whitefly, 280
Cyclobalanopsis,
acorn, 115
atavism, 115
gall wasp, 115
phenology, 115
cytochrome P_{450},
Asian citrus psyllid, 297
Candidatus Liberibacter asiaticus, 297
citrus greening, 297
glutathione transferase, 297

D

damselflies,
activity, 358
fish, 358
foraging, 358
injury, 358
degree-day models,
biofix, 192
plum curculio, 192
polynomial function, 192
Weibull function, 192
degree-days,
adult longevity, 488
chemotype, 488
developmental rate, 488
paperbark tree, 488
demographic attributes,
attine ants, 901
colony size, 901
nest architecture, 901
worker morphometry, 901
Derodontidae,
adelgid predators, 389
Laricobius, 389
molecular diagnostics, 389
new species, 389
descriptions,
life history, 605
Mecidea minor, 605
nymphs, 605
Pentatomidae, 605
desert communities,
ant–seed interaction, 212
choice experiments, 212
diet, 212
granivory, 212
detritus,
Aedes, 688
Culicidae, 688
ecological stoichiometry, 688
interspecific competition, 688
development,
chrysopids, 726
Dichochrysa sp., 726
mass rearing, 726
reproduction, 726
developmental rate,
adult longevity, 488
chemotype, 488
degree-days, 488
paperbark tree, 488
developmental stages,
Chaetopsis massyla, 416
Euxesta eluta, 416
Euxesta stigmatias, 416
sweet corn, 416
Diabrotica barberi,
fecundity, 834
longevity, 834
mate choice, 834
diapause,
fecundity, 1309
life history evolution, 1309
reproductive investment, 1309
survival, 1309
diapause induction,
critical photoperiod, 567
genetics, 567
sex-linked, 567
voltinism, 567
Dichochrysa prasina,
life-history traits, 43
Myzus persicae, 43
temperature, 43
Dichochrysa sp.,
chrysopids, 726
development, 726
mass rearing, 726
reproduction, 726
Dictyopharidae,
Avephora, 154
Oriental region, 154
Putala, 154
revision, 154
diet,
ant–seed interaction, 212
choice experiments, 212
desert communities, 212
granivory, 212
dietary restriction,
aging, 749
circadian activity, 749

Dioryctria,
coneworm, 1207
integrated taxonomy, 1207
mitochondrial DNA, 1207
species delimitation, 1207
diploid males,
Bombus, 83
microsatellites, 83
Diptera,
black cherry, 202
distribution, 202
Rhagoletis cingulate, 202
Tephritidae, 202
dipteran,
immature stages, 233
larval parasitoid, 233
longevity, 233
dipteran crop,
blowfly, 1399
concentration ingested, 1399
droplet production, 1399
regurgitation, 1399
dispersal, 649, 935
biogeography, 649
classical biological control, 935
host alternation, 935
mating signal, 649
overwintering, 935
soybean aphid, 935
systematics, 649
distribution, 202, 374, 895
black cherry, 202
Brazil, 374
Diptera, 202
host interactions, 895
identification, 374
morphology, 374
Myzorhynchella, 374
Rhagoletis cingulate, 202
Scolytinae, 895
Scolytus subscaber, 895
Tephritidae, 202
Diuraphis,
aphid, 39
DNA barcoding, 39
holocyclic reproduction, 39
Schizaphis, 39
diversification,
biogeography, 337
rock-crawlers, 337
species tree, 337
vicariance, 337
diversity,
Andes, 1091
Larentiinae, 1091
species richness estimate, 1091
diving beetles,
chaetotaxy, 863
larvae, 863
phylogenetic relationships, 863
DNA barcode,
genome, 788
Grapholita molesta, 788
mitochondria, 788
phylogeny, 788
DNA barcoding,
aphid, 39
Diuraphis, 39
holocyclic reproduction, 39
Schizaphis, 39
Dolichocyboidea,
Heterostigmatina, 627
insect associate, 627
mite, 627
phoresy, 627
droplet production,
blowfly, 1399
concentration ingested, 1399
dipteran crop, 1399
regurgitation, 1399
Drosophila buzzatii cluster,
bimodal hybrid zone, 434
reproductive isolation, 434
secondary contact zone, 434

E

ecological stoichiometry,
Aedes, 688
Culicidae, 688
detritus, 688
interspecific competition, 688
ecology, 241, 1360
Central America, 1360
Cosmetidae, 1360
habitat use, 241
Laniatores, 241
natural history, 241, 1360
Sclerosomatidae, 1360
species richness, 241
ecoregion,
biodiversity, 952
forest, 952
indicator species, 952
moths, 952
Ecuador,
Arctiinae, 1135
larval morphology, 1135
parasitoid, 1135
trophic interactions, 1135
egg dispersion,
Callosobruchus, 850
genetic correlation, 850
host deprivation, 850
oviposition behavior, 850
egg load,
host instar, 221
Microplitis rufiventris, 221
nutrition, 221
Spodoptera littoralis, 221
electrical penetration graph,
electronic monitoring of insect feeding, 515
host plant resistance, 515
maize pathogens, 515
vector, 515
electroantennography,
chemical ecology, 705
flight behavior, 705
host colonization, 705
Scolytus schevyrewi, 705
electronic monitoring of insect feeding,
electrical penetration graph, 515
host plant resistance, 515
maize pathogens, 515
vector, 515
Enchenopa binotata,
genitalia, 562
static allometry, 562
trait size scaling on body size, 562
endemic radiation,
Cosmopterigidae, 1
Microlepidoptera, 1
portable cases, 1
ENDITAL trapping,
ethanolITAL, 1297
lesser grain borer, 1297
Prostephanus truncatus, 1297
semiochemicals, 1297
Epichloë sp.,
Anthomyiidae, 841
Botanophila sp., 841
fly–fungus interaction, 841
Puccinellia distans, 841
ethanolITAL,
ENDITAL trapping, 1297
lesser grain borer, 1297
Prostephanus truncatus, 1297
semiochemicals, 1297
Ethiopia,
Carabidae, 132
taxonomy, 132
Trechus, 132
Eucryptorrhynchus brandti,
Ailanthus altissima, 718
classical biological control, 718
insect development, 718
insect rearing, 718
euglossine bees,
Apoidea, 229
gynander, 229
gynandromorph, 229
Neotropical fauna, 229
Euphorbia,
cryptic species, 966
invasion genetics, 966
mitochondrial DNA, 966
rangeland weeds, 966
Euschistus servus,
host plant, 909
integrated pest management, 909

population dynamics, 909
reproduction, 909
Euxesta eluta,
Chaetopsis massyla, 416
developmental stages, 416
Euxesta stigmatias, 416
sweet corn, 416
Euxesta stigmatias,
Chaetopsis massyla, 416
developmental stages, 416
Euxesta eluta, 416
sweet corn, 416
evolution,
behavior, 1012
communication, 1012
Ponerinae, 1012
experimental evolution,
adaptation, 808
additive inheritance, 808
host shift, 808
lentil, 808
expression pattern,
Antheraea pernyi, 1373
homologous alignment, 1373
phylogenetic inference, 1373
selenophosphate synthetase, 1373

F

fall armyworm,
fingerprinting, 577
molecular markers, 577
pyrosequencing, 577
simple sequence repeat, 577
Faronini,
biogeography, 1170
taxonomy, 1170
fat body, 761, 1319
Aspisoma lineatum, 761
bioluminescence, 761
luciferase, 761
phenotypic changes, 1319
photoperiod, 1319
seasonal adaptations, 1319
Solanum viarum, 1319
trophocyte, 761
fecundity, 451, 834, 1309
Diabrotica barberi, 834
diapause, 1309
Ficus benjamina, 451
life history, 451
life history evolution, 1309
longevity, 834
mate choice, 834
reproduction, 451
reproductive investment, 1309
survival, 1309
survivorship, 451
feeding,
biology, 613
consumption rates, 613
Gossypium hirsutum, 613
growth index, 613
Ficus benjamina,
fecundity, 451
life history, 451
reproduction, 451
survivorship, 451
fingerprinting,
fall armyworm, 577
molecular markers, 577
pyrosequencing, 577
simple sequence repeat, 577
fish,
activity, 358
damselflies, 358
foraging, 358
injury, 358
fitness,
host plant association, 826
reproductive isolation, 826
Spodoptera frugiperda, 826
strains, 826
flight behavior,
chemical ecology, 705
electroantennography, 705
host colonization, 705
Scolytus schevyrewi, 705
flower visitation,
resource competition, 353
solitary bee, 353
visual cue, 353
fly–fungus interaction,
Anthomyiidae, 841
Botanophila sp., 841
Epichloë sp., 841
Puccinellia distans, 841
foraging,
activity, 358
damselflies, 358
fish, 358
injury, 358
forest,
biodiversity, 952
ecoregion, 952
indicator species, 952
moths, 952
Frankliniella fusca,
Frankliniella occidentalis, 733
Frankliniella tritici, 733
host plant associations, 733
Frankliniella occidentalis,
Frankliniella fusca, 733
Frankliniella tritici, 733
host plant associations, 733
Frankliniella tritici,
Frankliniella fusca, 733
Frankliniella occidentalis, 733
host plant associations, 733
frass analysis,
alfalfa, 675
cannibalism, 675
Coccinella septempunctata, 675
predation, 675
fruit flies,
aeropyle, 16
chorion ornamentation, 16
micropyle, 16

G

gall wasp,
acorn, 115
atavism, 115
Cyclobalanopsis, 115
phenology, 115
gas diffusion,
bee cocoon, 1349
Osmia chalybea, 1349
silk, 1349
Stelis ater, 1349
Gelis agilis,
brood guarding, 1005
host manipulation, 1005
Meteorus pulchricornis, 1005
Microplitis sp., 1005
gene flow,
citrus red mite, 800
genetic variation, 800
nuclear rDNA internal transcribed spacer 1, 800
population demography, 800
gene maps,
mitochondrial DNA, 976
nuclear DNA, 976
phylogenetics, 976
ribosomal DNA, 976
genetic correlation,
Callosobruchus, 850
egg dispersion, 850
host deprivation, 850
oviposition behavior, 850
genetic diversity,
aphidiine wasps, 1221
barcoding, 1221
morphological, 1221
genetic variation,
citrus red mite, 800
gene flow, 800
nuclear rDNA internal transcribed spacer 1, 800
population demography, 800
genetics, 326, 567
biosynthesis, 326
critical photoperiod, 567
diapause induction, 567
genus *Ostrinia*, 326
hybrid, 326
moth pheromone, 326
sex-linked, 567
voltinism, 567
genitalia,
Enchenopa binotata, 562
static allometry, 562

trait size scaling on body size, 562
genitalic morphology,
apple maggot, 105
canonical variates analysis, 105
snowberry, 105
genome,
DNA barcode, 788
Grapholita molesta, 788
mitochondria, 788
phylogeny, 788
genus *Ostrinia*,
biosynthesis, 326
genetics, 326
hybrid, 326
moth pheromone, 326
geographic structure,
biological control, 1392
haplotypes, 1392
mitochondrial cytochrome oxidase subunit I gene, 1392
phylogeography, 1392
glassy-winged sharpshooter,
Auchenorrhyncha, 543
Homalodisca liturata, 543
Homalodisca vitripennis, 543
sodium dodecyl sulfate-polyacrylamide gel electrophoresis, 543
glutathione transferase,
Asian citrus psyllid, 297
Candidatus Liberibacter asiaticus, 297
citrus greening, 297
cytochrome P_{450}, 297
Gossypium hirsutum,
biology, 613
consumption rates, 613
feeding, 613
growth index, 613
granivory,
ant–seed interaction, 212
choice experiments, 212
desert communities, 212
diet, 212
Grapholita molesta,
DNA barcode, 788
genome, 788
mitochondria, 788
phylogeny, 788
grasshopper,
AK, 1303
invasive plant, 1303
growth index,
biology, 613
consumption rates, 613
feeding, 613
Gossypium hirsutum, 613
gynander,
Apoidea, 229
euglossine bees, 229
gynandromorph, 229
Neotropical fauna, 229
gynandromorph,
Apoidea, 229
euglossine bees, 229
gynander, 229
Neotropical fauna, 229

H

habitat use,
ecology, 241
Laniatores, 241
natural history, 241
species richness, 241
Halyini,
Pentatomidae, 1149
phylogeny, 1149
haplotypes,
biological control, 1392
geographic structure, 1392
mitochondrial cytochrome oxidase subunit I gene, 1392
phylogeography, 1392
Heloridae,
Jiulongshan Formation, 1334
Mesoserphidae, 1334
Middle Jurassic, 1334
Palaeoentomology, 1334
Helotidae,
candezei species group, 658
Neohelota, 658
taxonomic revision, 658
Hemiptera, 149, 1285
Heteroptera, 149, 1285
Murgantia, 149
new genus and species, 1285
new species, 149
Parasinea, 1285
herbivores,
bioenergy, 507
biomass, 507
Chaetopsis sp., 507
nocturnal activity, 507
Heteroptera, 149, 1285
Hemiptera, 149, 1285
Murgantia, 149
new genus and species, 1285
new species, 149
Parasinea, 1285
Heterostigmatina,
Dolichocyboidea, 627
insect associate, 627
mite, 627
phoresy, 627
histology,
Phyllophaga obsoleta, 960
protractile genital chamber, 960
sex pheromone, 960
holly leafminers,
Agromyzidae, 1183
Nearctic, 1183
Phytomyza, 1183
revision, 1183
holocyclic reproduction,
aphid, 39
Diuraphis, 39
DNA barcoding, 39
Schizaphis, 39
Homalodisca liturata,
Auchenorrhyncha, 543
glassy-winged sharpshooter, 543
Homalodisca vitripennis, 543
sodium dodecyl sulfate-polyacrylamide gel electrophoresis, 543
Homalodisca vitripennis,
Auchenorrhyncha, 543
glassy-winged sharpshooter, 543
Homalodisca liturata, 543
sodium dodecyl sulfate-polyacrylamide gel electrophoresis, 543
homologous alignment,
Antheraea pernyi, 1373
expression pattern, 1373
phylogenetic inference, 1373
selenophosphate synthetase, 1373
host alternation,
classical biological control, 935
dispersal, 935
overwintering, 935
soybean aphid, 935
host colonization,
chemical ecology, 705
electroantennography, 705
flight behavior, 705
Scolytus schevyrewi, 705
host deprivation,
Callosobruchus, 850
egg dispersion, 850
genetic correlation, 850
oviposition behavior, 850
host instar,
egg load, 221
Microplitis rufiventris, 221
nutrition, 221
Spodoptera littoralis, 221
host interactions,
distribution, 895
Scolytinae, 895
Scolytus subscaber, 895
host manipulation,
brood guarding, 1005
Gelis agilis, 1005
Meteorus pulchricornis, 1005
Microplitis sp., 1005

host plant,
Euschistus servus, 909
integrated pest management, 909
population dynamics, 909
reproduction, 909
host plant association, 826, 733
fitness, 826
Frankliniella fusca, 733
Frankliniella occidentalis, 733
Frankliniella tritici, 733
reproductive isolation, 826
Spodoptera frugiperda, 826
strains, 826
host plant resistance,
electrical penetration graph, 515
electronic monitoring of insect feeding, 515
maize pathogens, 515
vector, 515
host preference,
chemoreception, 319
sensilla styloconica, 319
taste, 319
tobacco hornworm, 319
host records,
Andean region, 1119
biology, 1119
South America, 1119
taxonomy, 1119
host selection,
alternative diet, 682
Brontispa longissima, 682
invasive alien species, 682
mass rearing, 682
host shift,
adaptation, 808
additive inheritance, 808
experimental evolution, 808
lentil, 808
Huanglongbing, 50, 526
anal secretions, 50
Asian citrus psyllid, 50
citrus greening disease, 50
citrus greening, 526
salivary gland, 526
transmission barrier, 526
vector relations, 526
hybrid,
biosynthesis, 326
genetics, 326
genus *Ostrinia*, 326
moth pheromone, 326
hybridization,
amplified fragment length polymorphism, 1380
northern corn rootworm, 1380
Hypoferreola,
Abernessia, 1279
Ctenocerinae, 1279
Lepidocnemis, 1279
spider wasp, 1279

I

identification,
Brazil, 374
distribution, 374
morphology, 374
Myzorhynchella, 374
idiobiont,
koinobiont, 465
Ophioniformes, 465
synovigeny, 465
immature stages, 233, 1108
Apocynaceae, 1108
dipteran, 233
larval mimicry, 1108
larval parasitoid, 233
life history, 1108
longevity, 233
Solanaceae, 1108
indicator species,
biodiversity, 952
ecoregion, 952
forest, 952
moths, 952
indole-3-acetic acid,
Apanteles galleriae, 77
parasitoid, 77
sublethal effects, 77
toxicity, 77
infection rate,
Chilo suppressalis, 998
phylogenetic analysis, 998
Wolbachia, 998
injury,
activity, 358
damselflies, 358
fish, 358
foraging, 358
inquiline,
oak gall wasp, 620
Synergini, 620
Ufo, 620
inquiline oak gall wasp,
Cecidomyiidae, 369
new species, 369
Quercus, 369
insect associate,
Dolichocyboidea, 627
Heterostigmatina, 627
mite, 627
phoresy, 627
insect development,
Ailanthus altissima, 718
classical biological control, 718
Eucryptorrhynchus brandti, 718
insect rearing, 718
insect rearing,
Ailanthus altissima, 718
classical biological control, 718
Eucryptorrhynchus brandti, 718
insect development, 718
integrated pest management,
Euschistus servus, 909
host plant, 909
population dynamics, 909
reproduction, 909
integrated taxonomy,
coneworm, 1207
Dioryctria, 1207
mitochondrial DNA, 1207
species delimitation, 1207
intermale variation,
acoustic communication, 945
call analysis, 945
Orthoptera song, 945
internal reproductive anatomy,
paragenital system, 1260
sexual selection, 1260
true bugs, 1260
interspecific competition,
Aedes, 688
Culicidae, 688
detritus, 688
ecological stoichiometry, 688
introduced species,
molecular diversity, 666
phylogeography, 666
wheat, 666
white intron 1, 666
invasion genetics,
cryptic species, 966
Euphorbia, 966
mitochondrial DNA, 966
rangeland weeds, 966
invasive alien species,
alternative diet, 682
Brontispa longissima, 682
host selection, 682
mass rearing, 682
invasive plant, 1303, 1327
AK, 1303
biocontrol, 1327
grasshopper, 1303
lace bug, 1327
Ligustrum sinense, 1327
tingid, 1327
invasive species, 121, 1292
Altiplano, 1292
Bolivia, 1292
Cocos nucifera, 121
cryptic species, 121
mitochondrial DNA, 121
pest, 1292
quinoa, 1292
irradiation,
Anastrepha ludens, 1367
apoptosis, 1367
phytosanitation, 1367

J

Jiulongshan Formation,
Heloridae, 1334
Mesoserphidae, 1334
Middle Jurassic, 1334
Palaeoentomology, 1334

K

kala-azar (visceral leishmaniasis),
blood feeding, 429
laboratory colonization, 429
nonhuman host, 429
Phlebotomus argentipes, 429
koinobiont, 465, 1355
idiobiont, 465
Ophioniformes, 465
parasitoid, 1355
rearing, 1355
synovigeny, 465
Toxoneuron nigriceps, 1355

L

laboratory colonization,
blood feeding, 429
kala-azar (visceral leishmaniasis), 429
nonhuman host, 429
Phlebotomus argentipes, 429
laboratory rearing,
captive breeding, 534
Cicindela dorsalis dorsalis, 534
Cicindela puritana, 534
tiger beetle, 534
lace bug,
biocontrol, 1327
invasive plant, 1327
Ligustrum sinense, 1327
tingid, 1327
Laniatores,
ecology, 241
habitat use, 241
natural history, 241
species richness, 241
Larentiinae,
Andes, 1091
diversity, 1091
species richness estimate, 1091
Laricobius,
adelgid predators, 389
Derodontidae, 389
molecular diagnostics, 389
new species, 389
larvae, 863, 1233
chaetotaxy, 863
comparative morphology, 1233
diving beetles, 863
Leucochrysini, 1233
phylogenetic relationships, 863
South America, 1233
larval development,
protogyny, 88
Spodoptera frugiperda, 88
larval mimicry,
Apocynaceae, 1108
immature stages, 1108
life history, 1108
Solanaceae, 1108
larval morphology,
Arctiinae, 1135
Ecuador, 1135
parasitoid, 1135
trophic interactions, 1135
larval movement,
caddisfly, 1021
life-history strategy, 1021
Platte River, 1021
subterranean behavior, 1021
larval parasitoid,
dipteran, 233
immature stages, 233
longevity, 233
leafhopper,
Andes mountain range, 141
Auchenorrhyncha, 141
submacroptery, 141
taxonomy, 141
lentil,
adaptation, 808
additive inheritance, 808
experimental evolution, 808
host shift, 808
Lepidocnemis,
Abernessia, 1279
Ctenocerinae, 1279
Hypoferreola, 1279
spider wasp, 1279
Lepidoptera,
biodiversity, 739
seasonality, 739
species richness estimator, 739
species turnover, 739
Leptura aethiops,
antennal sensilla, 778
Leptura arcuata, 778
scanning electron microscopy, 778
Leptura arcuata,
antennal sensilla, 778
Leptura aethiops, 778
scanning electron microscopy, 778
lesser grain borer,
ENDITAL trapping, 1297
ethanolITAL, 1297
Prostephanus truncatus, 1297
semiochemicals, 1297
Leucochrysini,
comparative morphology, 1233
larvae, 1233
South America, 1233
life history, 451, 605, 1108
Apocynaceae, 1108
descriptions, 605
fecundity, 451
Ficus benjamina, 451
immature stages, 1108
larval mimicry, 1108
Mecidea minor, 605
nymphs, 605
Pentatomidae, 605
reproduction, 451
Solanaceae, 1108
survivorship, 451
life history evolution,
diapause, 1309
fecundity, 1309
reproductive investment, 1309
survival, 1309
life-history strategy,
caddisfly, 1021
larval movement, 1021
Platte River, 1021
subterranean behavior, 1021
life-history traits,
Dichochrysa prasina, 43
Myzus persicae, 43
temperature, 43
Ligustrum sinense,
biocontrol, 1327
invasive plant, 1327
lace bug, 1327
tingid, 1327
longevity, 233, 834
Diabrotica barberi, 834
dipteran, 233
fecundity, 834
immature stages, 233
larval parasitoid, 233
mate choice, 834
lower lethal temperature,
Barypeithes pellucidus, 59
Phyllobius oblongus, 59
Polydrusus sericeus, 59
supercooling point, 59
luciferase,
Aspisoma lineatum, 761
bioluminescence, 761
fat body, 761
trophocyte, 761

M

Magicicada,
allochronic isolation, 443
phenotypic plasticity, 443
predator-satiation, 443
speciation, 443
maize pathogens,
electrical penetration graph, 515
electronic monitoring of insect feeding, 515
host plant resistance, 515
vector, 515
male killing,
butterfly, 483
sex-ratio distortion, 483

Wolbachia, 483
Zizina emelina, 483
mass rearing, 682, 726
alternative diet, 682
Brontispa longissima, 682
chrysopids, 726
development, 726
Dichochrysa sp., 726
host selection, 682
invasive alien species, 682
reproduction, 726
mate choice,
Diabrotica barberi, 834
fecundity, 834
longevity, 834
mating disruption,
copulatory behavior, 249
mealybugs, 249
reproductive biology, 249
mating signal,
biogeography, 649
dispersal, 649
systematics, 649
mating system,
movement patterns, 364
polyandry, 364
ranging, 364
social monogamy, 364
mealybugs,
copulatory behavior, 249
mating disruption, 249
reproductive biology, 249
Mecidea minor,
descriptions, 605
life history, 605
nymphs, 605
Pentatomidae, 605
Melanaphis sacchari,
Saccharum spp., 699
Sipha flava, 699
varieties, 699
melon fly,
Bactrocera cucurbitae, 306
chromosome inversions, 306
polytene chromosomes, 306
Tephritidae, 306
Meru phyllisae,
Adephaga, 25
chaetotaxy, 25
comb-clawed cascade beetles, 25
phylogeny, 25
Mesoserphidae,
Heloridae, 1334
Jiulongshan Formation, 1334
Middle Jurassic, 1334
Palaeoentomology, 1334
Meteorus pulchricornis,
brood guarding, 1005
Gelis agilis, 1005
host manipulation, 1005
Microplitis sp., 1005
Microlepidoptera,
Cosmopterigidae, 1
endemic radiation, 1
portable cases, 1
Microplitis rufiventris,
egg load, 221
host instar, 221
nutrition, 221
Spodoptera littoralis, 221
Microplitis sp.,
brood guarding, 1005
Gelis agilis, 1005
host manipulation, 1005
Meteorus pulchricornis, 1005
micropyle,
aeropyle, 16
chorion ornamentation, 16
fruit flies, 16
microsatellites, 83, 816
Anthonomus grandis grandis, 816
Bombus, 83
diploid males, 83
population assignment, 816
population genetics, 816
population structure, 816
Middle Jurassic,
Heloridae, 1334
Jiulongshan Formation, 1334
Mesoserphidae, 1334
Palaeoentomology, 1334
midgut,
monoterpenes, 553
scolytines, 553
toxic effects, 553
ultrastructural changes, 553
Mileewini,
Auchenorrhynhca, 636
Old World, 636
taxonomy, 636
Ujna, 636
mites, 402, 627, 886
alate, 886
Balaustium medicagoense, 402
Bryobia, 402
Dolichocyboidea, 627
Heterostigmatina, 627
insect associate, 627
pest, 402
phoresy, 627
phoresy, 886
red imported fire ant, 886
Solenopsis invicta, 886
species status, 402
mitochondria, 768, 788
basal membrane infoldings, 768
coated pits, 768
DNA barcode, 788
genome, 788
Grapholita molesta, 788
phylogeny, 788
vacuoles, 768
vesicles, 768
mitochondrial cytochrome oxidase subunit I gene,
biological control, 1392
geographic structure, 1392
haplotypes, 1392
phylogeography, 1392
mitochondrial DNA, 121, 966, 976, 1207
Cocos nucifera, 121
coneworm, 1207
cryptic species, 121, 966
Dioryctria, 1207
Euphorbia, 966
gene maps, 976
integrated taxonomy, 1207
invasion genetics, 966
invasive species, 121
nuclear DNA, 976
phylogenetics, 976
rangeland weeds, 966
ribosomal DNA, 976
species delimitation, 1207
molecular diagnostics,
adelgid predators, 389
Derodontidae, 389
Laricobius, 389
new species, 389
molecular diversity,
introduced species, 666
phylogeography, 666
wheat, 666
white intron 1, 666
molecular markers,
fall armyworm, 577
fingerprinting, 577
pyrosequencing, 577
simple sequence repeat, 577
monoterpenes,
midgut, 553
scolytines, 553
toxic effects, 553
ultrastructural changes, 553
morphological,
aphidiine wasps, 1221
barcoding, 1221
genetic diversity, 1221
morphology, 374, 878, 1033
biodiversity, 1033
Brazil, 374
China, 878
cryptic species, 1033
distribution, 374
identification, 374
Myzorhynchella, 374
neotropics, 1033
Taiwan, 878
taxonomy, 878, 1033
termite, 878

moth, 498, 952
attractant, 498
biodiversity, 498, 952
ecoregion, 952
forest, 952
indicator species, 952
survey, 498
trapping, 498
moth pheromone,
biosynthesis, 326
genetics, 326
genus *Ostrinia*, 326
hybrid, 326
movement patterns,
mating system, 364
polyandry, 364
ranging, 364
social monogamy, 364
multiple paternity,
ootheca, 348
praying mantid, 348
sexual cannibalism, 348
Tenodera aridifolia, 348
Murgantia,
Hemiptera, 149
Heteroptera, 149
new species, 149
Myzorhynchella,
Brazil, 374
distribution, 374
identification, 374
morphology, 374
Myzus persicae,
Dichochrysa prasina, 43
life-history traits, 43
temperature, 43

N

natural history, 241, 1360
Central America, 1360
Cosmetidae, 1360
ecology, 241, 1360
habitat use, 241
Laniatores, 241
Sclerosomatidae, 1360
species richness, 241
Nearctic
Agromyzidae, 1183
holly leafminers, 1183
Phytomyza, 1183
revision, 1183
Neohelota,
candezei species group, 658
Helotidae, 658
taxonomic revision, 658
Neotropical fauna,
Apoidea, 229
euglossine bees, 229
gynander, 229
gynandromorph, 229
neotropics,
biodiversity, 1033
cryptic species, 1033
morphology, 1033
taxonomy, 1033
nest architecture,
attine ants, 901
colony size, 901
demographic attributes, 901
worker morphometry, 901
new genus,
bamboo pests, 95
Bambusicaliscelis, 95
Caliscelidae, 95
new species, 95
new genus and species,
Hemiptera, 1285
Heteroptera, 1285
Parasinea, 1285
new species, 95, 149, 369, 389
adelgid predators, 389
bamboo pests, 95
Bambusicaliscelis, 95
Caliscelidae, 95
Cecidomyiidae, 369
Derodontidae, 389
Hemiptera, 149
Heteroptera, 149
inquiline oak gall wasp, 369
Laricobius, 389
molecular diagnostics, 389
Murgantia, 149
new genus, 95
Quercus, 369
nocturnal activity,
bioenergy, 507
biomass, 507
Chaetopsis sp., 507
herbivores, 507
nonhuman host,
blood feeding, 429
kala-azar (visceral leishmaniasis), 429
laboratory colonization, 429
Phlebotomus argentipes, 429
northern corn rootworm,
amplified fragment length polymorphism, 1380
hybridization, 1380
nuclear DNA,
gene maps, 976
mitochondrial DNA, 976
phylogenetics, 976
ribosomal DNA, 976
nuclear rDNA internal transcribed spacer 1,
citrus red mite, 800
gene flow, 800
genetic variation, 800
population demography, 800
nutrition,
egg load, 221
host instar, 221
Microplitis rufiventris, 221
Spodoptera littoralis, 221
Nylanderia,
parasitism, 37
Pseudacteon, 37
Solenopsis, 37
nymphs,
descriptions, 605
life history, 605
Mecidea minor, 605
Pentatomidae, 605

O

oak gall wasp,
inquiline, 620
Synergini, 620
Ufo, 620
Old World,
Auchenorrhynhca, 636
Mileewini, 636
taxonomy, 636
Ujna, 636
ootheca,
multiple paternity, 348
praying mantid, 348
sexual cannibalism, 348
Tenodera aridifolia, 348
Ophioniformes,
idiobiont, 465
koinobiont, 465
synovigeny, 465
Oriental region,
Acephora, 154
Dictyopharidae, 154
Putala, 154
revision, 154
Orthoptera song,
acoustic communication, 945
call analysis, 945
intermale variation, 945
Oryctini,
allometry, 919
Brazil, 919
Pleurosticti, 919
sexual selection, 919
Osmia chalybea,
bee cocoon, 1349
gas diffusion, 1349
silk, 1349
Stelis ater, 1349
overwintering,
classical biological control, 935
dispersal, 935
host alternation, 935
soybean aphid, 935
oviposition behavior,
Callosobruchus, 850
egg dispersion, 850

genetic correlation, 850
host deprivation, 850

P

Palaeoentomology,
Heloridae, 1334
Jiulongshan Formation, 1334
Mesoserphidae, 1334
Middle Jurassic, 1334
paperbark tree,
adult longevity, 488
chemotype, 488
degree-days, 488
developmental rate, 488
paragenital system,
internal reproductive anatomy, 1260
sexual selection, 1260
true bugs, 1260
Parasinea,
Hemiptera, 1285
Heteroptera, 1285
new genus and species, 1285
parasite transmission,
common swift, 847
Crataerina pallida, 847
parasitism,
Nylanderia, 37
Pseudacteon, 37
Solenopsis, 37
parasitoid, 77, 1135, 1355
Apanteles galleriae, 77
Arctiinae, 1135
Ecuador, 1135
indole-3-acetic acid, 77
koinobiont, 1355
larval morphology, 1135
rearing, 1355
sublethal effects, 77
toxicity, 77
Toxoneuron nigriceps, 1355
trophic interactions, 1135
parasitoid diversity,
species richness, 287
Tachinidae, 287
temporal distribution, 287
voltinism, 287
Pentatomidae, 605, 1149
descriptions, 605
Halyini, 1149
life history, 605
Mecidea minor, 605
nymphs, 605
phylogeny, 1149
Peru,
Amazon, 68
Andes Mountains, 68
Sphingidae, 68
pest, 402, 1292
Altiplano, 1292
Balaustium medicagoense, 402
Bolivia, 1292
Bryobia, 402
invasive species, 1292
mite, 402
quinoa, 1292
species status, 402
phenology,
acorn, 115
atavism, 115
Cyclobalanopsis, 115
gall wasp, 115
phenotypic changes,
fat body, 1319
photoperiod, 1319
seasonal adaptations, 1319
Solanum viarum, 1319
phenotypic plasticity,
allochronic isolation, 443
Magicicada, 443
predator-satiation, 443
speciation, 443
pheromone-based pest management,
cross attraction, 588
Prioninae, 588
semiochemical, 588
Phlebotomus argentipes,
blood feeding, 429
kala-azar (visceral leishmaniasis), 429
laboratory colonization, 429
nonhuman host, 429
phoresy, 627, 886
alate, 886
Dolichocyboidea, 627
Heterostigmatina, 627
insect associate, 627
mites, 627, 886
red imported fire ant, 886
Solenopsis invicta, 886
photoperiod,
fat body, 1319
phenotypic changes, 1319
seasonal adaptations, 1319
Solanum viarum, 1319
Phyllobius oblongus,
Barypeithes pellucidus, 59
lower lethal temperature, 59
Polydrusus sericeus, 59
supercooling point, 59
Phyllophaga obsoleta,
histology, 960
protractile genital chamber, 960
sex pheromone, 960
phylogenetic analysis,
Chilo suppressalis, 998
infection rate, 998
Wolbachia, 998
phylogenetic inference,
Antheraea pernyi, 1373
expression pattern, 1373
homologous alignment, 1373
selenophosphate synthetase, 1373
phylogenetic relationships,
chaetotaxy, 863
diving beetles, 863
larvae, 863
phylogenetics,
gene maps, 976
mitochondrial DNA, 976
nuclear DNA, 976
ribosomal DNA, 976
phylogeny, 25, 788, 1149
Adephaga, 25
chaetotaxy, 25
comb-clawed cascade beetles, 25
DNA barcode, 788
genome, 788
Grapholita molesta, 788
Halyini, 1149
Meru phyllisae, 25
mitochondria, 788
Pentatomidae, 1149
phylogeography, 666, 1392
biological control, 1392
geographic structure, 1392
haplotypes, 1392
introduced species, 666
mitochondrial cytochrome oxidase subunit I gene, 1392
molecular diversity, 666
wheat, 666
white intron 1, 666
Phytomyza,
Agromyzidae, 1183
holly leafminers, 1183
revision, 1183
Nearctic, 1183
phytosanitation,
Anastrepha ludens, 1367
apoptosis, 1367
irradiation, 1367
Platte River,
caddisfly, 1021
larval movement, 1021
life-history strategy, 1021
subterranean behavior, 1021
Platygastridae,
biological control, 180
Cecidomyiidae, 180
Robinia pseudoacacia, 180
seasonal abundance, 180
Pleurosticti,
allometry, 919
Brazil, 919
Oryctini, 919
sexual selection, 919
plum curculio,
biofix, 192
degree-day models, 192

polynomial function, 192
Weibull function, 192
Poaceae, 1078, 1128
bamboo, 1128
Braconidae, 1078
Chusquea, 1078, 1128
cloud forest, 1078, 1128
skipper, 1128
Winthemia, 1078
polyandry,
mating system, 364
movement patterns, 364
ranging, 364
social monogamy, 364
Polydrusus sericeus,
Barypeithes pellucidus, 59
lower lethal temperature, 59
Phyllobius oblongus, 59
supercooling point, 59
polynomial function,
biofix, 192
degree-day models, 192
plum curculio, 192
Weibull function, 192
polytene chromosomes,
Bactrocera cucurbitae, 306
chromosome inversions, 306
melon fly, 306
Tephritidae, 306
Ponerinae,
behavior, 1012
communication, 1012
evolution, 1012
population assignment,
Anthonomus grandis grandis, 816
microsatellites, 816
population genetics, 816
population structure, 816
population demography,
citrus red mite, 800
gene flow, 800
genetic variation, 800
nuclear rDNA internal transcribed spacer 1, 800
population dynamics,
Euschistus servus, 909
host plant, 909
integrated pest management, 909
reproduction, 909
population genetics,
Anthonomus grandis grandis, 816
microsatellites, 816
population assignment, 816
population structure, 816
population structure,
Anthonomus grandis grandis, 816
microsatellites, 816
population assignment, 816
population genetics, 816
portable cases,
Cosmopterigidae, 1
endemic radiation, 1
Microlepidoptera, 1
praying mantid,
multiple paternity, 348
ootheca, 348
sexual cannibalism, 348
Tenodera aridifolia, 348
predation,
alfalfa, 675
cannibalism, 675
Coccinella septempunctata, 675
frass analysis, 675
predator-satiation,
allochronic isolation, 443
Magicicada, 443
phenotypic plasticity, 443
speciation, 443
Prioninae,
cross attraction, 588
pheromone-based pest management, 588
semiochemical, 588
Prostephanus truncatus,
ENDITAL trapping, 1297
ethanolITAL, 1297
lesser grain borer, 1297
semiochemicals, 1297
protogyny,
larval development, 88
Spodoptera frugiperda, 88
protractile genital chamber,
histology, 960
Phyllophaga obsoleta, 960
sex pheromone, 960
Pseudacteon,
Nylanderia, 37
parasitism, 37
Solenopsis, 37
Puccinellia distans,
Anthomyiidae, 841
Botanophila sp., 841
Epichloë sp., 841
fly–fungus interaction, 841
Putala,
Avephora, 154
Dictyopharidae, 154
Oriental region, 154
revision, 154
pyrosequencing,
fall armyworm, 577
fingerprinting, 577
molecular markers, 577
simple sequence repeat, 577

Q

Quercus,
Cecidomyiidae, 369
inquiline oak gall wasp, 369
new species, 369
quinoa,
Altiplano, 1292
Bolivia, 1292
invasive species, 1292
pest, 1292

R

rangeland weeds,
cryptic species, 966
Euphorbia, 966
invasion genetics, 966
mitochondrial DNA, 966
ranging,
mating system, 364
movement patterns, 364
polyandry, 364
social monogamy, 364
rearing,
koinobiont, 1355
parasitoid, 1355
Toxoneuron nigriceps, 1355
red imported fire ant,
alate, 886
mites, 886
phoresy, 886
Solenopsis invicta, 886
regurgitation,
blowfly, 1399
concentration ingested, 1399
dipteran crop, 1399
droplet production, 1399
reproduction, 451, 726, 909
chrysopids, 726
development, 726
Dichochrysa sp., 726
Euschistus servus, 909
fecundity, 451
Ficus benjamina, 451
host plant, 909
integrated pest management, 909
life history, 451
mass rearing, 726
population dynamics, 909
survivorship, 451
reproductive biology,
copulatory behavior, 249
mating disruption, 249
mealybugs, 249
reproductive investment,
diapause, 1309
fecundity, 1309
life history evolution, 1309
survival, 1309
reproductive isolation, 434, 826
bimodal hybrid zone, 434
Drosophila buzzatii cluster, 434
fitness, 826
host plant association, 826
secondary contact zone, 434

Spodoptera frugiperda, 826
strains, 826
resource competition,
flower visitation, 353
solitary bee, 353
visual cue, 353
revision, 154, 1183
Agromyzidae, 1183
Acephora, 154
Dictyopharidae, 154
holly leafminers, 1183
Nearctic, 1183
Oriental region, 154
Phytomyza, 1183
Putala, 154
Rhabdoscelus obscurus,
Coleoptera, 594
Curculionidae, 594
trap characteristics, 594
trapping location, 594
Rhagoletis cingulate,
black cherry, 202
Diptera, 202
distribution, 202
Tephritidae, 202
ribosomal DNA,
gene maps, 976
mitochondrial DNA, 976
nuclear DNA, 976
phylogenetics, 976
Robinia pseudoacacia,
biological control, 180
Cecidomyiidae, 180
Platygastridae, 180
seasonal abundance, 180
rock-crawlers,
biogeography, 337
diversification, 337
species tree, 337
vicariance, 337

S

Saccharum spp.,
Melanaphis sacchari, 699
Sipha flava, 699
varieties, 699
salivary gland, 261, 526
alimentary canal, 261
Bemisia anatomy, 261
citrus greening, 526
huanglongbing, 526
transmission barrier, 526
Squash leaf curl virus, 261
vector relations, 526
whitefly-mediated transmission, 261
scanning electron microscopy,
antennal sensilla, 778
Leptura aethiops, 778
Leptura arcuata, 778
Schizaphis,
aphid, 39
Diuraphis, 39
DNA barcoding, 39
holocyclic reproduction, 39
Sclerosomatidae,
Central America, 1360
Cosmetidae, 1360
ecology, 1360
natural history, 1360
Scolytinae,
distribution, 895
host interactions, 895
Scolytus subscaber, 895
scolytines,
midgut, 553
monoterpenes, 553
toxic effects, 553
ultrastructural changes, 553
Scolytus schevyrewi,
chemical ecology, 705
electroantennography, 705
flight behavior, 705
host colonization, 705
Scolytus subscaber,
distribution, 895
host interactions, 895
Scolytinae, 895
seasonal abundance,
biological control, 180
Cecidomyiidae, 180
Platygastridae, 180
Robinia pseudoacacia, 180
seasonal adaptations,
fat body, 1319
phenotypic changes, 1319
photoperiod, 1319
Solanum viarum, 1319
seasonality,
biodiversity, 739
Lepidoptera, 739
species richness estimator, 739
species turnover, 739
secondary contact zone,
bimodal hybrid zone, 434
Drosophila buzzatii cluster, 434
reproductive isolation, 434
selenophosphate synthetase,
Antheraea pernyi, 1373
expression pattern, 1373
homologous alignment, 1373
phylogenetic inference, 1373
semiochemical, 588, 1297
cross attraction, 588
ENDITAL trapping, 1297
ethanolITAL, 1297
lesser grain borer, 1297
pheromone-based pest management, 588
Prioninae, 588
Prostephanus truncatus, 1297
sensilla styloconica,
chemoreception, 319
host preference, 319
taste, 319
tobacco hornworm, 319
sex pheromone,
histology, 960
Phyllophaga obsoleta, 960
protractile genital chamber, 960
sex-linked,
critical photoperiod, 567
diapause induction, 567
genetics, 567
voltinism, 567
sex-ratio distortion,
butterfly, 483
male killing, 483
Wolbachia, 483
Zizina emelina, 483
sexual cannibalism,
multiple paternity, 348
ootheca, 348
praying mantid, 348
Tenodera aridifolia, 348
sexual selection, 919, 1260
allometry, 919
Brazil, 919
internal reproductive anatomy, 1260
Oryctini, 919
paragenital system, 1260
Pleurosticti, 919
true bugs, 1260
silk,
bee cocoon, 1349
gas diffusion, 1349
Osmia chalybea, 1349
Stelis ater, 1349
simple sequence repeat,
fall armyworm, 577
fingerprinting, 577
molecular markers, 577
pyrosequencing, 577
Sipha flava,
Melanaphis sacchari, 699
Saccharum spp., 699
varieties, 699
skipper,
bamboo, 1128
Chusquea, 1128
cloud forest, 1128
Poaceae, 1128
snowberry,
apple maggot, 105
canonical variates analysis, 105
genitalic morphology, 105
social monogamy,
mating system, 364
movement patterns, 364
polyandry, 364
ranging, 364

sodium dodecyl sulfate-polyacrylamide gel electrophoresis,
Auchenorrhyncha, 543
glassy-winged sharpshooter, 543
Homalodisca liturata, 543
Homalodisca vitripennis, 543
soil ecology,
agroecosystem, 171
biodiversity, 171
cotton, 171
Solenopsis invicta, 171
Solanaceae,
Apocynaceae, 1108
immature stages, 1108
larval mimicry, 1108
life history, 1108
Solanum viarum,
fat body, 1319
phenotypic changes, 1319
photoperiod, 1319
seasonal adaptations, 1319
Solenopsis invicta, 171, 886
agroecosystem, 171
alate, 886
biodiversity, 171
cotton, 171
mites, 886
phoresy, 886
red imported fire ant, 886
soil ecology, 171
Solenopsis,
Nylanderia, 37
parasitism, 37
Pseudacteon, 37
solitary bee,
flower visitation, 353
resource competition, 353
visual cue, 353
South America, 1119, 1233
Andean region, 1119
biology, 1119
comparative morphology, 1233
host records, 1119
larvae, 1233
Leucochrysini, 1233
taxonomy, 1119
soybean aphid,
classical biological control, 935
dispersal, 935
host alternation, 935
overwintering, 935
speciation,
allochronic isolation, 443
Magicicada, 443
phenotypic plasticity, 443
predator-satiation, 443
species delimitation
coneworm, 1207
Dioryctria, 1207
integrated taxonomy, 1207
mitochondrial DNA, 1207
species richness, 241, 287
ecology, 241
habitat use, 241
Laniatores, 241
natural history, 241
parasitoid diversity, 287
Tachinidae, 287
temporal distribution, 287
voltinism, 287
species richness estimate,
Andes, 1091
diversity, 1091
Larentiinae, 1091
species richness estimator,
biodiversity, 739
Lepidoptera, 739
seasonality, 739
species turnover, 739
species status,
Balaustium medicagoense, 402
Bryobia, 402
mite, 402
pest, 402
species tree,
biogeography, 337
diversification, 337
rock-crawlers, 337
vicariance, 337
species turnover,
biodiversity, 739
Lepidoptera, 739
seasonality, 739
species richness estimator, 739
Sphingidae,
Amazon, 68
Andes Mountains, 68
Peru, 68
spider wasp,
Abernessia, 1279
Ctenocerinae, 1279
Hypoferreola, 1279
Lepidocnemis, 1279
Spodoptera frugiperda, 88, 826
fitness, 826
host plant association, 826
larval development, 88
protogyny, 88
reproductive isolation, 826
strains, 826
Spodoptera littoralis,
egg load, 221
host instar, 221
Microplitis rufiventris, 221
nutrition, 221
Squash leaf curl virus,
alimentary canal, 261
Bemisia anatomy, 261
salivary glands, 261
whitefly-mediated transmission, 261
static allometry,
Enchenopa binotata, 562
genitalia, 562
trait size scaling on body size, 562
Stelis ater,
bee cocoon, 1349
gas diffusion, 1349
Osmia chalybea, 1349
silk, 1349
strains,
fitness, 826
host plant association, 826
reproductive isolation, 826
Spodoptera frugiperda, 826
sublethal effects,
Apanteles galleriae, 77
indole-3-acetic acid, 77
parasitoid, 77
toxicity, 77
submacroptery,
Andes mountain range, 141
Auchenorrhyncha, 141
leafhopper, 141
taxonomy, 141
subterranean behavior,
caddisfly, 1021
larval movement, 1021
life-history strategy, 1021
Platte River, 1021
supercooling point,
Barypeithes pellucidus, 59
lower lethal temperature, 59
Phyllobius oblongus, 59
Polydrusus sericeus, 59
survey,
attractant, 498
biodiversity, 498
moth, 498
trapping, 498
survival, 928, 1309
Bemisia tabaci, 928
diapause, 1309
fecundity, 1309
life history evolution, 1309
reproductive investment, 1309
sweetpotato whitefly, 928
vapor pressure deficit, 928
survivorship,
fecundity, 451
Ficus benjamina, 451
life history, 451
reproduction, 451
sweet corn,
Chaetopsis massyla, 416
developmental stages, 416
Euxesta eluta, 416
Euxesta stigmatias, 416
sweetpotato whitefly,
Bemisia tabaci, 928
survival, 928
vapor pressure deficit, 928

Synergini,
inquiline, 620
oak gall wasp, 620
Ufo, 620
synovigeny,
idiobiont, 465
koinobiont, 465
Ophioniformes, 465
systematics,
biogeography, 649
dispersal, 649
mating signal, 649

T

Tachinidae,
parasitoid diversity, 287
species richness, 287
temporal distribution, 287
voltinism, 287
Taiwan,
China, 878
morphology, 878
taxonomy, 878
termite, 878
taste,
chemoreception, 319
host preference, 319
sensilla styloconica, 319
tobacco hornworm, 319
taxonomic revision,
candezei species group, 658
Helotidae, 658
Neohelota, 658
taxonomy, 132, 141, 636, 878, 1033, 1119, 1170
Andean region, 1119
Andes mountain range, 141
Auchenorrhyncha, 141
Auchenorrhynhca, 636
biodiversity, 1033
biogeography, 1170
biology, 1119
Carabidae, 132
China, 878
cryptic species, 1033
Ethiopia, 132
Faronini, 1170
host records, 1119
leafhopper, 141
Mileewini, 636
morphology, 878, 1033
neotropics, 1033
Old World, 636
South America, 1119
submacroptery, 141
Taiwan, 878
termite, 878
Trechus, 132
Ujna, 636
temperature, 43, 459
Coptotermes formosanus, 459
Dichochrysa prasina, 43
life-history traits, 43
Myzus persicae, 43
wood moisture, 459
wood preference, 459
temporal distribution,
parasitoid diversity, 287
species richness, 287
Tachinidae, 287
voltinism, 287
Tenodera aridifolia,
multiple paternity, 348
ootheca, 348
praying mantid, 348
sexual cannibalism, 348
Tephritidae, 202, 306
Bactrocera cucurbitae, 306
black cherry, 202
chromosome inversions, 306
Diptera, 202
distribution, 202
melon fly, 306
polytene chromosomes, 306
Rhagoletis cingulate, 202
termite,
China, 878
morphology, 878
Taiwan, 878
taxonomy, 878
thermoregulation,
Aethina tumida, 476
Apis mellifera, 476
Varroa destructor, 476
winter cluster, 476
tiger beetle,
captive breeding, 534
Cicindela dorsalis dorsalis, 534
Cicindela puritana, 534
laboratory rearing, 534
tingid,
biocontrol, 1327
invasive plant, 1327
lace bug, 1327
Ligustrum sinense, 1327
tobacco hornworm,
chemoreception, 319
host preference, 319
sensilla styloconica, 319
taste, 319
toxic effects,
midgut, 553
monoterpenes, 553
scolytines, 553
ultrastructural changes, 553
toxicity,
Apanteles galleriae, 77
indole-3-acetic acid, 77
parasitoid, 77
sublethal effects, 77
Toxoneuron nigriceps,
koinobiont, 1355
parasitoid, 1355
rearing, 1355
trait size scaling on body size,
Enchenopa binotata, 562
genitalia, 562
static allometry, 562
transmission barrier,
citrus greening, 526
huanglongbing, 526
salivary gland, 526
vector relations, 526
trap characteristics,
Coleoptera, 594
Curculionidae, 594
Rhabdoscelus obscurus, 594
trapping location, 594
trapping,
attractant, 498
biodiversity, 498
moth, 498
survey, 498
trapping location,
Coleoptera, 594
Curculionidae, 594
Rhabdoscelus obscurus, 594
trap characteristics, 594
Trechus,
Carabidae, 132
Ethiopia, 132
taxonomy, 132
trophic interactions,
Arctiinae, 1135
Ecuador, 1135
larval morphology, 1135
parasitoid, 1135
trophocyte,
Aspisoma lineatum, 761
bioluminescence, 761
fat body, 761
luciferase, 761
true bugs,
internal reproductive anatomy, 1260
paragenital system, 1260
sexual selection, 1260

U

Ufo,
inquiline, 620
oak gall wasp, 620
Synergini, 620
Ujna,
Auchenorrhynhca, 636
Mileewini, 636
Old World, 636
taxonomy, 636
ultrastructural changes,
midgut, 553
monoterpenes, 553
scolytines, 553
toxic effects, 553

V

vacuoles,
  basal membrane infoldings, 768
  coated pits, 768
  mitochondria, 768
  vesicles, 768
vapor pressure deficit,
  Bemisia tabaci, 928
  survival, 928
  sweetpotato whitefly, 928
varieties,
  Melanaphis sacchari, 699
  Saccharum spp., 699
  Sipha flava, 699
Varroa destructor,
  Aethina tumida, 476
  Apis mellifera, 476
  thermoregulation, 476
  winter cluster, 476
vector,
  electrical penetration graph, 515
  electronic monitoring of insect feeding, 515
  host plant resistance, 515
  maize pathogens, 515
vector relations,
  citrus greening, 526
  huanglongbing, 526
  salivary gland, 526
  transmission barrier, 526
vesicles,
  basal membrane infoldings, 768
  coated pits, 768
  mitochondria, 768
  vacuoles, 768
vicariance,
  biogeography, 337
  diversification, 337
  rock-crawlers, 337
  species tree, 337
virus vector,
  accessory salivary gland, 280
  circulative transmission, 280
  cyclical salivation, 280
  whitefly, 280
visual cue,
  flower visitation, 353
  resource competition, 353
  solitary bee, 353
voltinism, 287, 567
  critical photoperiod, 567
  diapause induction, 567
  genetics, 567
  parasitoid diversity, 287
  sex-linked, 567
  species richness, 287
  Tachinidae, 287
  temporal distribution, 287

W

Weibull function,
  biofix, 192
  degree-day models, 192
  plum curculio, 192
  polynomial function, 192
wheat,
  introduced species, 666
  molecular diversity, 666
  phylogeography, 666
  white intron 1, 666
white intron 1,
  introduced species, 666
  molecular diversity, 666
  phylogeography, 666
  wheat, 666
whitefly,
  accessory salivary gland, 280
  circulative transmission, 280
  cyclical salivation, 280
  virus vector, 280
whitefly-mediated transmission,
  alimentary canal, 261
  Bemisia anatomy, 261
  salivary glands, 261
  Squash leaf curl virus, 261
winter cluster,
  Aethina tumida, 476
  Apis mellifera, 476
  thermoregulation, 476
  Varroa destructor, 476
Winthemia,
  Braconidae, 1078
  Chusquea, 1078
  cloud forest, 1078
  Poaceae, 1078
Wolbachia, 483, 998
  butterfly, 483
  Chilo suppressalis, 998
  infection rate, 998
  male killing, 483
  phylogenetic analysis, 998
  sex-ratio distortion, 483
  Zizina emelina, 483
wood moisture,
  Coptotermes formosanus, 459
  temperature, 459
  wood preference, 459
wood preference,
  Coptotermes formosanus, 459
  temperature, 459
  wood moisture, 459
worker morphometry,
  attine ants, 901
  colony size, 901
  demographic attributes, 901
  nest architecture, 901

Z

Zizina emelina,
  butterfly, 483
  male killing, 483
  sex-ratio distortion, 483
  Wolbachia, 483